

## REMARKS

Applicant wishes to thank Examiner Bonzo for having pointed out the typographical error in claim 66. That error has now been corrected.

Use of the word "substantially"; and  
Rejections under 35 USC § 112, second paragraph

In the Official Action at page 2 it is said that the uses of this term "warrant a citation of the MPEP"; and section 2173.05 is in fact cited — and at pages 3 and 4 of the Action it is argued that phrases in the claims are "neither clear nor distinct". In the Official Action this argument is supported by saying (emphasis added):

"The use of the word substantially in patent claims is [to] convey the concept that certain ideals infeasible are infeasible in the real world. Despite any amount of effort nothing can be truly planar or pure or round. Substantially is employed to allow for imperfections and impurities in a legal framework. In the pending claims, the computer system in question is . . . not a result of some real world manufacturing restriction."

With respect, this entire line of argument is inapposite to the Applicant's claims. Indeed it is believed to be incorrect in the vast majority of uses in all patent claims.

If the only point in using the word "substantially" were the purpose stated in the above quotation, then the word would be

utterly superfluous. That is to say, since everyone knows that geometrical "ideals" are never attainable, there would be no point in wasting a word to say so every time a characteristic is recited.

Very much to the contrary, by far the more common use of the term is to preclude competitors from "designing around" the specific language of a patent claim by making a trivial change. Very commonly an infringer goes to a patent lawyer and asks how to avoid a claim, and the lawyer says something like:

"Well, the claim says that this widget is made up exclusively of COTS [commercial, off-the-shelf] components. There are basically two limitations there — 'COTS', and 'exclusively'. Therefore you can get around this claim by either one of two ways:

- "(1) don't use components that are strictly COTS — just substitute COTS components that have been repainted in one corner, or that have had an insignificant hole drilled and tapped on one side; or
- "(2) here and there throw in some odd item that's not COTS at all — it doesn't need to be an important part, or a big one, but only just enough to get around that word 'exclusively'.

"If you do that, you can probably escape this claim."

This may not be perfect advice. Some judges or juries — and in fact some appellate caselaw — may not let the infringer wiggle out just by making such inconsequential changes, blatantly adopted for the particular purpose of avoiding the claim.

Nevertheless it is fairly good advice, especially if the lawyer cautions the infringer to try to make changes that are as substantive as practical. That is, the lawyer may warn the in-

fringer that the substitutions might not work if they are all totally inconsequential.

Thus it might be better, for instance, to not only drill and tap a hole on one side of one otherwise-COTS component, but also to then actually use that tapped hole, for instance in place of part of a COTS bracket, to hold that otherwise-COTS component to another component that is strictly COTS. Better yet, the COTS programming of a particular otherwise-COTS computer component might be replaced by customized or partially customized programming; or the mechanical interface (switches, for instance) might be modified for more reliable operation.

Hence this kind of hazard to enforcement calls for thoughtful anticipation of such design-around efforts. It is precisely this goal which is the purpose of the term "substantially".

The term is used twice because, as shown by the hypothetical lawyer's lecture above, there are two distinct points at which the infringer may seek to circumvent the claim: (1) the recitation of nonCOTS components, and (2) the recitation that only COTS components are to be used.

Thus the phrase "substantially commercial, off-the-shelf" blocks off escape route #1. Further, the phrase "substantially exclusively" blocks off escape route #2.

The word "substantially" means "in substance". Therefore it is acceptable if people skilled in the field (or finders of fact after receiving testimony from those skilled people) can say whether the substance of the matter:

(1) for each component considered in turn, is that this component is COTS; and

(2) for any clearly nonCOTS component, is that this component is related to overall function (or instead maybe seems just tossed in to avoid the claim).

These are questions for the finder of fact, whether judge or jury — and they are questions that are the stuff of legal "terms of art": that is, the boundaries of such relative terminology are established over decades and centuries by the caselaw.

Hence, with respect, the argument in the Official Action that the language seen is "a range within a range", or that "a meaning for exclusively is not forthcoming", simply represents a blurry analysis of a specific concept. The two uses of the term "substantially" must be independently parsed and understood, and the significance and ramifications of each realized.

Then the person of ordinary skill can know what is meant. Applicant submits that the meaning is clear from the application as filed — but even more plainly clear based on the foregoing discussion, which is now of record in the file wrapper of this case.

Applicant wishes to sincerely thank the Examiner for his thoughtful advice and encouragement in this regard. As will now be seen, however, to follow that advice would be to leave the Applicant open to plundering of the benefit of his invention by competitors interested only in going around the protections offered by the Patent Statute.

#### References to Documents not Provided in an IDS

As required in the Official Action, an information disclosure statement is appended to this paper — with copies of the

cited art. Unfortunately the reference #1 is out of print, and Applicant's personal copy has been lost. Applicant is trying to obtain an archival copy from the author/publisher, Intel Corp.

Objections to the Claims; and

Rejections under 35 USC § 112, fourth paragraph

In the Official Action it is said that claims 48 and 66 are a "substantial duplicate" of claims 43 and 63 — and also that certain claims "fail to further limit the scope of the [parent] claims". The latter rejection is applied to claims 4, 16, 26, 36, 47, 59, 63 and 66.

As to claim 66, Applicant agrees. That duplication results from a simple typographical error, which has now been corrected.

As to the remaining claims, however, Applicant respectfully traverses. The argument in the Official Action in this regard is (underscoring added):

"The *such computer system* of these claim [in] each case has already been claimed verbatim in the parent claim."

With the greatest of respect, this argument simply is factually in error.

In fact the phrase "such computer system" is not claimed as an element of the claimed combination in any of the subject parent claims. Review of claims 4, 16, 26, 36, 47, 59 and 63 will reveal that in the parent claims of each of these claims, the computer system is recited only in preamble.

Thus the computer system is only an element of the environment of the invention, i. e. of the context of the invention. In this regard please refer to page 16 of the application as filed, at lines 8 through 16 of that page.

In claims 1 through 3, and also for example in claim 5, the computer system is very clearly not any part of the claimed combination. Only in claim 4 is it first introduced as an element of the claimed combination.

Only in the other enumerated claims, similarly, is that contextual element then added into the claimed combination as such. Other language that helps to see the relationships involved appears in, e. g., claim 27 at line 1 — "for use with a computing system"; wherein once again the computing system is explicitly something that is used with the invention of claim 27 but not part of the claimed combination of that claim.

#### Rejections under 35 USC § 102(b)

In the Official Action it is said that claims 1 through 48, and claims 52 through 65, are unpatentable in view of the Applicant's own publication, *The Hundred Year Spacecraft*. For the reason indicated below, Applicant respectfully traverses.

As noted in the present Official Action, Section 102(b) provides (emphasis added), "A person shall be entitled to a patent unless . . .

"(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one

year prior to the date of application for patent in the United States."

To determine the "date of application for patent", this law must be read together with 35 USC § 120, viz. (emphasis added):

"35 U.S.C. 120 BENEFIT OF EARLIER FILING DATE IN THE UNITED STATES. An application for patent for an invention disclosed . . . in an application previously filed . . . by an inventor . . . named in the previously filed application shall have the same effect, as to such invention, as though filed on the date of the prior application, if filed before the patenting or abandonment of or termination of proceedings on the first application . . . and if it contains or is amended to contain a specific reference to the earlier filed application."

In the present case, the invention was indeed "disclosed . . . in an application previously filed" — namely the Applicant's provisional application 60/213,826, filed June 23, 2000. Of course the present inventor is "an inventor named in the previously filed application" as required by Section 120.

It is well known that a provisional application has a one-year life, and its "abandonment [absent an express abandonment] or termination of proceedings" cannot occur before the expiration date of the provisional. In the present case, accordingly, that expiration occurred one year after the June 23, 2000 filing — namely on June 22, 2001.

To determine the effective Section 102(b) "date of application", it remains to establish that the present application was "filed before the abandonment of . . . the first application" — namely, before that June 22, 2001 expiration date of the provi-

sional case. The present application was indeed filed June 20, 2001 — indeed two days "before" the [June 22] abandonment".

Other required formalities stated in Section 120 are believed to be satisfied in the present case, as the original Filing Receipt attests. Therefore the present application is eligible for the benefit of Section 120, i. e. that it "shall have the same effect . . . as though filed on" the prior-application date, June 23, 2000.

In other words, for purposes of Section 102(b) the effective filing date of the present case is that prior-application filing date. In short our § 102(b) "date of application" is June 23, 2000.

Now turning to the Applicant's printed publication: its effective date — as set forth in the "Notice of References Cited" that accompanied the Official Action — is July 19, 1999. That date is within one year before the June 23, 2000 Section 102(b) "date of application", as established above.

More specifically, "one year before" would have been June 23, 1999 — but July 19, is 26 days later than June 23. Therefore the paper was published 26 days LESS than one year before the 102(b) date of application.

In other words, at least as to that July 1999 paper, the invention was not "described in a printed publication . . . more than one year prior to the date of application". All this means that the exception stated in Section 102(b) does not apply here.

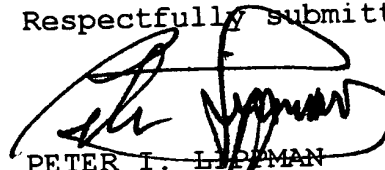
The statute mandates, absent any proper ground for rejection, that the Applicant, Dr. Avizienis, "shall be entitled to a patent". The Section 102(b) rejection was improper, and he hereby asks that it be withdrawn.



Conclusion

In view of the foregoing amendment and remarks, Applicants respectfully request reconsideration and allowance. In addition, noting the extremely high cost of continuing prosecution of this application — not only to the Applicants but to the Government as well — it is earnestly requested that, should there appear any obstacle to allowance of the claims herein, the Examiner telephone the undersigned attorney to try to resolve the obstacle.

Respectfully submitted,



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